UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/855,905	05/14/1997	MASAAKI YAMANAKA	443-17	2320

28249 7590 09/08/2006

DILWORTH & BARRESE, LLP
333 EARLE OVINGTON BLVD.
UNIONDALE, NY 11553

EXAMINER	
KRUER, KEVIN R	
ART UNIT	**PAPER NUMBER**
1773	

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

8

Office Action Summary	Application No.	Applicant(s)	
	08/855,905	YAMANAKA ET AL.	
	Examiner	Art Unit	
	Kevin R. Kruer	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *August 14, 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 28-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 28-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on May 12, 2006 has been entered.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1 and 28-49 are rejected under 35 U.S.C. l03(a) as being unpatentable over Takashi et al. (US 4,318,950) and further in view of Ohba et al. (US 5,233,924) and European Patent 0 613 919 A1 (herein referred to as Ueda).

Takashi discloses that it is well known in the art to make synthetic papers comprising oriented thermoplastic laminates. Inorganic fillers may be added to the thermoplastic resin prior to stretching in order to roughen the surface and render the film receptive to pencil, pen, and crayon markings (col 1, lines 19-46). It is also well known in the art that antistatic properties are desired in synthetic paper products.

Takashi teaches that a composition comprising inorganic fillers and a propylene matrix (col 7, line 63) are useful in making synthetic paper. Inorganic fillers comprise 0.5%-65*% of the composition (col 7, lines 8-10) and may be selected from the group consisting of calcium carbonate, silica, talc, titanium oxide, and clay (col 7, lines 1-4). The composition may further comprise an anti-static agent (col 8, lines 20-60, and the examples). Such agents are commonly added to synthetic papers in order to make the film more ink receptive during printing. The polypropylene composition containing inorganic filler is uniaxially oriented at least 2.5 times the original dimension, and possibly as high as 16 times the original dimension (col 5, lines 8-17). It is well known in the art to orient the film at a temperature lower than the melting point of the polypropylene resin. The film is stretch so that the void content is between 10-65% (claim 1,. equation is in Table VIIN col 17). The stretched film may be surface treated with corona discharge treatment at a voltage of 3,000 to 30,000 volts and a current of 0.5 to 5 amperes (col 4, lines 41-51). The polypropylene composition may be laminated to a biaxially oriented backing film layer (abstract). The thickness of such a laminate may be 30-140um, wherein the polypropylene composition has a thickness of 10-100um (Table IV, col 14).

With respect to the gloss limitation of claim 1, all the examples taught in Takashi have a gloss of 60% or less (see Tables VII (a) and VII(b)).

With regard to the opacity limitation of claim 1, Takashi does not teach the desired level of opacity of a synthetic paper. However, Ohba teaches a synthetic paper comprising a polyolefin matrix tilled with inorganic filler, wherein the opacity of the film is

desirably at least 80% (abstract) because such an opacity is sufficient for writing with a pencil (col 1, lines 6-12). Therefore, the examiner takes the position that it would have been obvious to one of ordinary skill in the art to alter the opacity of the film taught in Takashi so its above 80% because such an opacity is sufficient for writing with a pencil.

Takashi teaches the use of an anti-static agent in a synthetic paper polypropylene composition, but does not teach the claimed antistatic composition. However, Ueda teaches an antistatic which may be utilized in a polypropylene composition (page 9, lines 34-42). The composition taught in Ueda comprises:

component A: a polyolefin resin (55-95% by weight of the total composition)

component B: a polyetheresteramide antistatic agent (3-40% by weight)

Component C: a polyamide resin (1-20% by weight), and

Component D: a compatilizer (0.2-20%)

The polyetheresteramide is derived from a polyamide oligomer having a number average molecular weight of 300 to 3,000 and which contains carboxyl groups at each end and an alkylene oxide adduct of bisphenol having a number average molecular weight of from 300 to 5,000 (claim 1). For example, the polyetheresteramide can be synthesized from an s-caprolactam,' an ethylene oxide adduct of bisphenol & and adipic acid (page 12, example 1). Furthermore, lz-aminodeçanoic acid may be used as the polyamide oligomer in place of the s-caprolactam (page 3, lines 2 1-29). Ueda teaches that polyetheresteramides having aromatic rings as component B have a reduced viscosity of from 0.5 to 4.0 in 0.5 <% m-cresol solution at 250C (page 4, lines 21-24). It would have been obvious to one of ordinary skill in the art at the time the invention was

made to utilize the antistatic agent taught in Ueda in the synthetic paper taught in Takashi because the polyetheresteramide is known to be compatible with polypropylene, heat resistance, maintains its antistatic properties permanently (abstract), and does not rinse away in the presence of water.

Furthermore, it would have been obvious to utilize the polyetheresteramide in the amounts taught in Ueda because Ueda teaches that such amounts are sufficient for providing polypropylene matrixes with antistatic properties. Ueda further teaches that the polyamide of component C increases the surface orientation of the polyetheresteramide (col 6, lines 38-47). The polyamide is selected from the group consisting of nylon 66, nylon 69, nylon 601, nylon 612, nylon 6, nylon 11, nylon 12, and nylon 46 (page 5, lines 21-22). Preferably the polyamide resin has a reduced viscosity of from 0.8 to 5 in 97% sulfuric acid (concentration 11100m1) at 30OC (page 5, lines 22-25). Thus, it would have been obvious to one of ordinary skill in the art to add sufficient amounts of the polyamide taught in Ueda to the synthetic paper taught in Takashi in order to increase the surface orientation of the polyetheresteramide.

Ueda also teaches that a compatilizer is preferably utilized in order to improve compatibility with the resin, prevent interlaminar peeling of molded articles obtained, and improve the mechanical strength and appearance of the final product (col 6, lines 55-61). When polypropylene is utilized as the thermoplastic matrix, preferred compatilizers include (a) an acid modified low molecular weight polyolefin having a number average molecular weight of from 800-25, 00 and an acid number of from 5-150, (b) a hydroxy modified low molecular weight polyolefin having a number average

molecular weight of from 800 to 2. 5,000 and a hydroxy value of from 5 to 150, and c) an ester modified low molecular weight polyolefin obtained by partly or wholly esterifing an acid modified low molecular weight polyolefin with a polyoxyalkylene compound and having a number average molecular weight of from 1,000-28,000 (page 7, lines 21-29). Such a compatilizer may be obtained by reacting a low molecular weight polyolefin having a number average molecular weight from 700 to 20,000 with an unsaturated acid selected from methacrylic acid, maleic acid, maleic anhydride, fumaric acid, itaconic acid, itaconic anhydlide, and citraconic anhydride (page 7, lines 30-39). The resulting product can be reacted further a) with an aliphatic amine selected from monomethanolamine, monoisopropanolamine, diethanolamine, and diisopropanolamine (page 7, lines 48-52), or b) by esterifying part or all of the carboxylic acid moieties of the modified low molecular weight polyolefin with a hydroxylated polyoxylalkylene compound (page 7, line 53 - page 8, line 9). The examiner takes the position that it would have been obvious to one of ordinary skill in the art to incorporate the compatilizers taught in Ueda in their taught amounts into the synthetic paper taught in Takashi in order to improve compatibility with the resin, prevent interlaminar peeling of molded articles obtained, and improve the mechanical strength and appearance of the final product (col 6, lines 55-61).

Response to Arguments

Applicants' arguments filed August 14, 2006, have been fully considered but they are not persuasive.

Applicant has filed a fourth supplemental declaration describing experiments of the "side-by-side" comparison and the results obtained from those experiments. According to applicant, experiment 1 was conducted in the same manner as example 12 of Takashi. Experiment 2 was prepared in the same manner as experiment 1 except a high molecular weight antistatic agent was used instead of a low molecular weight antistatic agent. Example 3 was prepared in the same manner as experiment 1 except a low molecular weight antistatic agent was used at 20pbw. Experiment 4 was prepared as in the present invention (experiment 1 in the specification).

Applicant argues experiments 1 and 3 show low molecular weight antistatic agents will be washed out of the composition. Said showing is expected in view of the teachings of the prior art. Applicant further argues Experiments 2 and 4 demonstrate the high molecular weight antistatic agent does not wash out. Said results are expected by the prior art.

Applicant further argues that offset printability of the paper was evaluated and demonstrated that only the inventive example (Example 4) would not become problematic and there would not be a high frequency of paper feeding/discharge because of a high surface resistivity. Said result is again considered to be expected in view of the prior art. Specifically, the prior art recognizes the relationship between paper feeding/discharge and surface resistivity. Thus, the skilled artisan would expect a paper with a high surface resistivity to be problematic with respect to paper feeding/discharge. Examples 1 and 3 exhibit high surface resistivity because the low

molecular weight antistatic agent bleeds from the composition. Example 2 contains too little high molecular weight antistatic agent to achieve a desirable surface resistivity.

The example further notes that multiple variables are altered between examples 2 and 4. Therefore, no conclusion can be drawn as a result of the showing in the declaration because it is unclear what variables are responsible for any possible showing of differences between the surface resistivity and/or paper feeding properties of the examples.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R. Kruer whose telephone number is 571-272-1510. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

K-RK

Kevin Kruer Patent Examiner-Art Unit 1773